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Mont.

THE GRAZING BULLETIN

DEPARTMENT OF THE INTERIOR

DIVISION OF GRAZING

APRIL 1939

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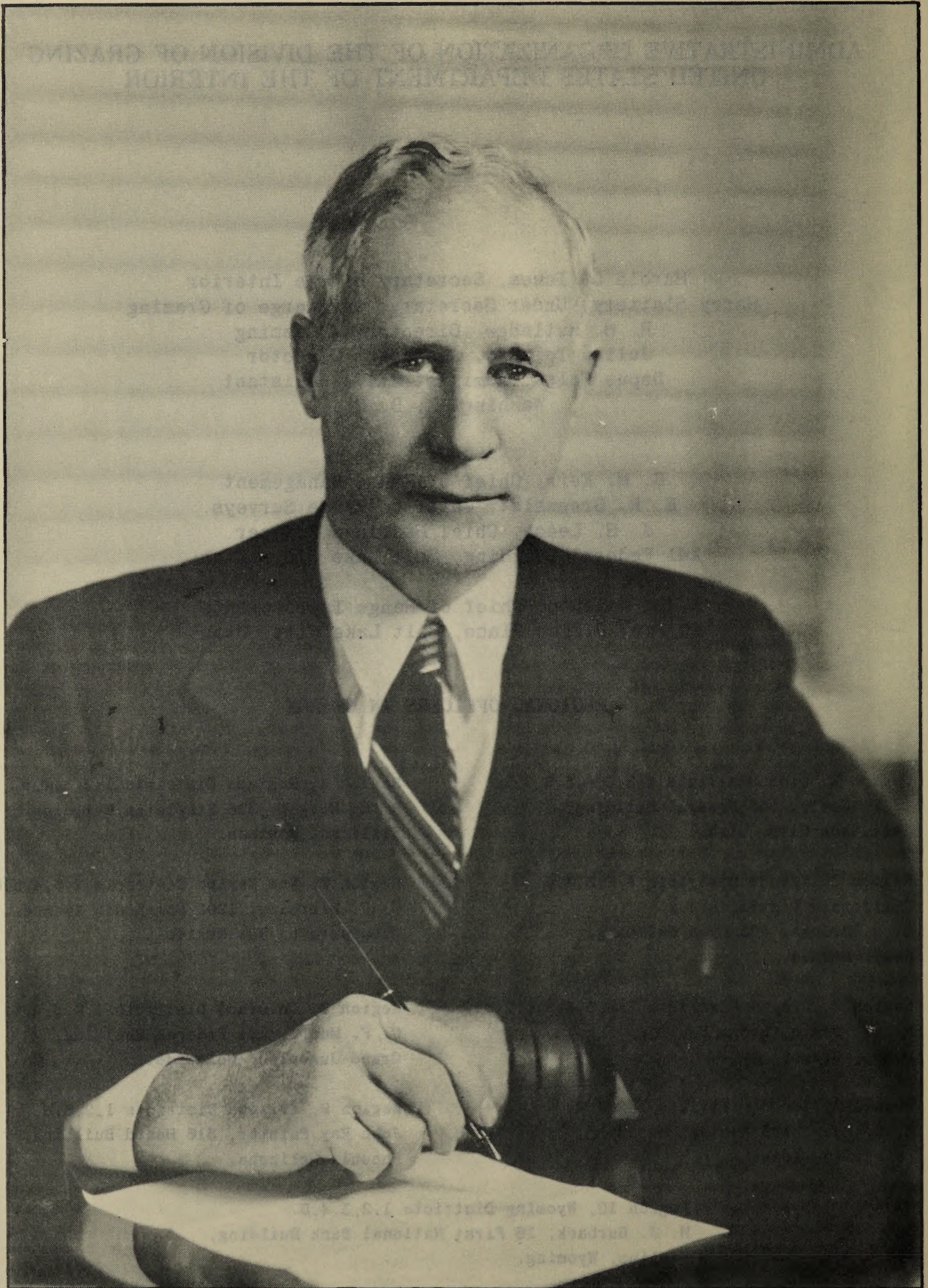
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R. H. Rutledge
Director of Grazing



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Secretary of the Interior

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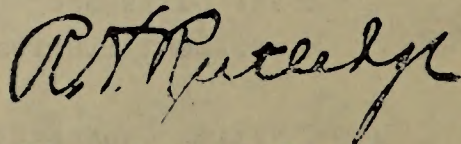
FOREWORD

During the past few months I have gained some valuable impressions of the Division of Grazing and the job it has set out to perform. I am impressed by the attitude of the stockmen and their willingness to cooperate. I am impressed by the size of the job to be done and the methods that have been employed.

The welfare of all the natural resources involved and the stability of the range livestock industry depend upon how wisely and well we pull together. In viewing the forces that are assembled to make this thing work, I see no real distinction between the various positions we occupy. It is largely by accident that one person is a director, another a regional grazer, another a camp superintendent, and another a stockman. We are all a group of ordinary folks trying to fulfill our particular place in this big job of conservation. Our task is not an easy one but like our forefathers who pioneered this country, we accept the challenge. Thus, we can chart our course toward better work and better living.

I want to assure you stockmen that I will foster every policy and act that will lead to better things. In so doing the objectives must be viewed in the light of public benefit which means more grass and water, more and better livestock, better wildlife conditions, fewer destructive elements, and happier homes in this western country of ours.

I ask you men and women in the Division of Grazing to join with me in carrying out this program so essential to the welfare not only of the livestock industry but also to the Nation itself.



Director of Grazing.

CONSERVATION COUSINS

Fair use of the range not only is a cardinal principle in the enforcement of provisions of the Taylor Grazing Act by the Division of Grazing, but also is a matter of deep personal concern to the Secretary of the Interior. This definite assurance was given stockmen of the west by Secretary Harold L. Ickes on February 16, in an address delivered by him before the American National Livestock Association in San Francisco.

"Long before I went to Washington I learned how men exercised unlawful sovereignty over lands that were not theirs," Secretary Ickes told the convention delegates. "Every complaint that has ever come to me I have caused to be investigated and the reports have been sent directly to my desk.

"If you know of any discrimination, if you know of any improper use of the range, you will confer a great favor upon me by reporting it to me personally. Just write 'personal' on the outside of your envelope and your letter will come straight to my desk.

"One of the first instructions that I gave to the newly appointed Director of the Division of Grazing was that no favoritism was to be shown. I laid it down as the first principle that the little fellow must be as fully protected in his right as the bigger fellow; that all questions of doubt must be resolved in favor of the little fellow. I did not have a particle of sympathy for huge livestock companies that had been squeezing out the men with small herds; nor for the small operator who assumed that he was the owner, in fee simple, of land that was public property.

"In operating under the Taylor Grazing Act we have had two objects in view which in a way contradict each other. On one hand, we wanted to restore and maintain the range in order to increase its carrying capacity and, on the other hand, we wanted it to be possible for the stockmen to graze as many head as possible.* * *

"The income from grazing fees amounts roughly to one million dollars annually. Twenty-five per cent of this sum is returned to the grazing districts for range improvements. Fifty per cent of every dollar collected is returnable to the States in which the grazing districts are situated, to be expended as the State Legislature may prescribe for the benefit of the county or counties in which the public lands are situated.

"The advisory boards are bodies set up voluntarily by the Secretary of the Interior and their function is implicit in the word 'advisory.' If I were asked whether I would favor granting administrative functions to the advisory boards, in all frankness, I would have to answer 'no.' Executive functions cannot successfully be carried out by a board or group. This has been demonstrated time after time and no one outside of politics ever tries to make such a fool set-up work.

"I now come to the subject of Senate Bill 571 introduced in the present session of the 76th Congress on January 12 of this year.

This bill proposes that the Taylor Grazing Act be amended so as to empower grazing district advisors to adjudicate grazing privileges on the Federal range and perform other administrative functions pertaining to its management. * * *

"The district advisory boards have furnished an effective channel connecting the officials in charge of grazing and the users of the range. I would like to avoid any controversy concerning the advisory boards under the proposed law. Why inject a highly controversial question at a time when everything is running smoothly; when there is peace and understanding? The advisory board system is on trial before the Nation. Everybody who has an interest in the West wants it to succeed. The Taylor Grazing Act is also on trial before the Nation. In contributing to its success, the district advisors occupy a unique position. It seems to me that any attempt at this time to antagonize public opinion would be a grave mistake and a serious blow to the stock grazing industry.

"Our exclusive concern is the well-being and prosperity of the stockmen. The record of the new Director of Grazing, Richard H. Rutledge, is additional assurance that, under the Taylor Grazing Act, the range will be administered in the public interest, which means the interest of the users of the range. But the management of Federal lands must remain a Federal function.

"I hope that the time will come soon when all of the livestock men of the country will see that the administration of publicly owned grazing lands is primarily a problem of conservation. When this is fully realized, it will do more than save the livestock range; it will bring a new element of harmony into the conservation program in America."

DIRECTOR RUTLEDGE

One of the outstanding authorities on grazing problems in the Nation became Director of Grazing on November 10, 1938, with the appointment of Richard H. Rutledge, of Ogden, Utah, as successor to Farrington R. Carpenter, of Hayden, Colorado.

Mr. Carpenter, who had served as Director of Grazing since 1934, tendered his resignation on November 8, 1938, expressing a desire to retire to private life.

Bringing to his post a detailed knowledge of the range, timber, and other resources and their relation to the communities in the West gained through long residence in the Western States and close association with citizens in the livestock industry, Director Rutledge during the 18 years immediately preceding his selection as Director of Grazing had been in charge of the Northern and Intermountain Region of the Forest Service, Department of Agriculture, with headquarters in Ogden, Utah.

Richard Haney Rutledge was born in Onarga, Illinois, on September 28, 1873. Residing in the grazing States of Idaho, Montana, and Utah since childhood, he received his early education in the public schools of the West, culminating in attendance at the University of Idaho, from which he received an honorary master's degree in forestry in 1938.

Prior to 1905, Mr. Rutledge was a teacher in the public schools and engaged in stock

raising and farming. In 1905-6, he served as forest ranger; acted as forest supervisor in 1907-8; was appointed assistant district forester in 1910; and served as regional forester for the Northern and Intermountain region from 1919 until his appointment as Director of Grazing.

The new Director of Grazing was married to Miss Mary Pottenger, of Boise, Idaho, on December 23, 1896, and they have four children, a daughter residing at Browning, Montana; a daughter in Australia; a son at Sacramento, California; and a daughter at Provo, Utah.

While declaring that the Division of Grazing was fortunate to secure the services of Mr. Rutledge as Director, Secretary of the Interior Harold L. Ickes at the same time paid tribute to the splendid work accomplished under the directorship of Mr. Carpenter.

"While we are fortunate in being able to secure the services of such a valuable man as Mr. Rutledge, I wish to pay tribute to the splendid work accomplished by the Division of Grazing while directed by Mr. Carpenter," Secretary Ickes said.

"Untiring efforts in building up this organization for the conservation of a valuable natural resource on vast areas of public range land, following enactment of the Taylor act, produced splendid results."

OREGON GRAZING DISTRICT NO. 1 COOPERATIVE SURVEY

The range surveys unit of the Division of Grazing, in cooperation with the Soil Conservation Service, of the Department of Agriculture, recently completed a range, soils, and economic survey of Oregon Grazing District No. 1. This study was carried on under the Memorandum of Understanding entered into by the Secretary of the Interior and the Secretary of Agriculture on February 27, 1937, and is the first completed project of several that are now under way.

This district is located in southeastern Klamath County, Oregon, and comprises a total area of 169,897 acres. It is bounded on the north and east by the Fremont National Forest and on the south by the Oregon-California State line which also forms the northern boundary of the Modoc National Forest. There

is no town within its boundary but on the west is the little town of Bonanza which serves as an outpost for the activities that are based on agriculture, timber, and stock raising, both for this area and the territory westward toward Klamath Falls, the county seat.

The following is a summary of the findings of the survey from which it is expected that a sound, long-time program of land use may be developed:

A. Land Use

Of the 169,897 acres, 141,533 acres are native range, 5,951 acres are perennial grass and legumes for hay, 5,464 acres are cultivated land, 3,933 acres are alkali pasture and 2,417 acres are ir-

rigated pasture. Generally speaking, all crop land is confined to Langell Valley in the southwest corner of the district, which is the center of all livestock operations in the district.

B. General Economic Conditions

The operators within the district, with very few exceptions, depend entirely on their livestock returns for their livelihood, as very little land is devoted to the growing of cash crops. During the last few years, the low livestock returns have brought about an acute financial condition. The larger operators have been able, by obtaining loans and mortgaging their operations, to continue to operate. The smaller operators have been forced to work by the day as much as possible in order to support their families and maintain their operations. In some cases, even this did not prove adequate and the small operators have been forced out of business. At the present time, practically all lands in the area are heavily mortgaged.

C. Range Carrying Capacity and Demands

The estimated carrying capacity of the range as established by the survey in September and October, 1938, is 13,301.7 animal unit months. Grazing use during the 1938 season was estimated by the Division of Grazing to be 24,210 animal unit months. The grazing allowed in 1938, although almost two times the estimated carrying capacity, did not meet the demands for range.

D. Vegetative Condition

The climax vegetation on this range was bunch grass, with Bluebunch Fescue (Festuca idahoensis) and Bluebunch Wheatgrass (Agropyron spicatum) the predominating species of bunchgrass. Interbunch species were principally Bluegrasses (Poa spp.). Sandberg Bluegrass (Poa secunda) was beyond a doubt the principal interbunch species.

Approximately one half (74,112 acres) of the range land had and still has an overstory of Western Juniper (Juniperus occidentalis). The juniper stands were quite open and the understory was bunchgrass. Sagebrush (Artemisia spp.) was present on the virgin range but was very scattered and did not, until serious overgrazing reduced the grass species, make up much density.

Coniferous timber (Ponderosa pine) covered 31,551 acres of the range. The timber stands were quite open as is typical of this species and good grass and browse forage made up the understory. The timber stands are still fairly intact. Logging and fire have reduced the amount of mature timber, but the stands are still in good shape. The density of the understory species has been seriously reduced by continued overgrazing.

Sagebrush species (Artemisia spp.) has increased with the decrease in grass species in all types except possibly the Coniferous Timber type until it is the predominating plant on the range.

The rangeland in its present state of retrogradation is in fair to poor condition. By using the five classifications for range condition based on the amount of climax species remaining and the invading plant species, an average condition has been given each type mapped. Of the total range area, 50.97 per cent (72,139 acres) is in the "C" condition class. This area includes most of the "Coniferous Timber Type", one third of the "Juniper Type," and small localized areas of the other types more or less remotely located with respect to water. The remainder of the "Juniper Type" and most of the "Sagebrush Type" is in the "D" condition class, which makes up 46.95 percent (66,449 acres) of the total range area. The other three condition classes (A, B, and E) occur to a very limited extent.

The "A" class makes up only .08 percent or 100 acres of the total area. This includes one 63-acre Rabbitbrush (Chrysothamnus) type in Langell Valley. The remainder of this type is small wet meadows.

The "B" class has a total area of 2,119 acres or 1.5 per cent of the total area. This type is largely made up of wet and dry meadows with small isolated areas of the other types (4, 6, and 9).

The "E" class or denuded areas have a total area of 726 acres or .5 per cent of the total area. This class includes areas such as small pastures or lots used as corrals and gumbo flats which are supporting no vegetation.

E. Erosion

The erosion as mapped by the Conservation Surveyor varies considerably from one vegetative type to another. In the rangeland, slight sheet erosion (less than 25 per cent removal of the top soil) is found only on meadows and on the broad sage flats when the gradient is very low. In many of these areas, occasional gullies occur.

Areas classed vegetatively as "Sagebrush" are, generally speaking, classed as having moderately severe sheet erosion (50-75 per cent of top soil removed). Occurring throughout the area are relatively small areas of this type, on which the sheet erosion is either moderate (25-50 per cent of top soil removed) or severe (over 75 per cent of top soil removed).

Broadly speaking, the "Timber Type" (6) has suffered less from sheet erosion than the other types. Over most of the timbered area moderate sheet erosion has taken place (25-50 per cent of top soil removed). An occasional "Timber Type" shows moderately severe sheet erosion.

The area classed as "Juniper Type" (9) is comparable to the "Sagebrush Type" (4) where moderately severe sheet erosion has taken place over a high percentage of the area.

The erosion condition, as indicated by the Conservation Surveyors for the vegetative types mapped by the range examiners, indicates a definite relationship between the density of perennial grasses and weeds and the degree of erosion. For example, two vegetative types in which we find the same soil type, the same degree of slope, the same aspect, and the same perennial species, but one having a density that is triple the density of the other, the erosion, on the type with the lower density, is more severe than that which exists on the other type.

F. Control Measures

1. Stocking (Numbers and class)

In order that the range vegetation be maintained or increased, grazing shall be limited to estimated carrying capacity as established by the survey (13,300.75 AUM). Permits, for grazing in each fenced allotment, shall be issued for only that number

of stock that can graze for the entire season as later designated, and the total animal months grazed will not exceed the estimated carrying capacity.

Three allotments, Dry Prairie, Horse Fly, and Willow Valley, will be utilized by cattle. The Pitch Log Allotment will be allotted for sheep use.

2. Seasons of Use

The three cattle allotments shall be used as spring-fall range. Spring grazing shall begin not earlier than April 1-15 and terminate with the opening of the national forest summer range, about June 15. Fall use shall begin with the closing of the summer range about October 15 and continue as long as weather will permit. The exact opening and closing dates of grazing for each grazing season will be set by the technician in charge, according to the climatic variations which occur from year to year.

On the one sheep allotment, "Pitch Log Allotment," the season of use shall be the same as allowed on the adjacent national forest summer range. Grazing will begin about June 15 and continue until about October 15.

3. Distribution

Proper distribution of livestock on the range can be obtained only after the completion of all recommended water developments. With the completion of all water developments, technicians will, by using maps and field inspection, select locations for permanent salt grounds. The selection of such salting locations, with respect to water and available forage, should give the desired distribution of range livestock.

G. Range Improvements

1. Fencing

Fence construction has been the major work program on the grazing district. Up to November 1, 1938, 57 miles of allotment division fence, holding pasture fence, and boundary fence had been constructed. An additional 18½ miles of fence had been approved and should be completed by June 30, 1939.

All fences constructed are standard 4-strand barbed wire. Posts are of split Western Juniper, rarely less than six inches by nine inches at the small end.

2. Corrals

Three corrals have been completed and plans call for two more to be completed by June 30, 1939. The corrals are constructed of Western Juniper posts, cut approximately ten feet long, set in the ground and laced together with galvanized wire. Each corral is in two units, each approximately 100 feet in diameter.

The space between the two units is the same as the length of the swinging gates which, when opened, form a lane from one unit to the other.

Two more corrals of the same size are to be constructed in the spring.

3. Water

Three stock-ponds had been completed by the Division of Grazing CCC camp on November 1, 1938, and the fourth project was under construction.

H. Recommended Improvements

It was evident at the time the survey was started, that there was need for extensive water development in order that sufficient water be provided to obtain proper distribution of livestock. Accordingly, during the course of the field work, each possible stock-pond location or spring was accurately located on the maps. Fourteen springs and forty possible stock-pond sites were located.

In several cases in the grazing district, where dams had been constructed by private individuals and in one case by the Division of Grazing native meadows resulted. For this reason, it is recommended that all dams constructed be for dual use, meadow restoration and stock water, and that the dams be constructed with a gate valve in order that the water may be drained from the meadows so that stock may utilize the forage during the fall. A borrow pit immediately above the dam will serve as a water hole during the late season.

It is estimated that a total of 7,400 acres of meadow can be created which will supply between 7,000 and 10,000 AUM additional feed. Approximately 4,400 acres of the possible meadow land are private lands, most of which are unfenced and used along with the public lands.

GRAZING LICENSES ISSUED BY
DIVISION OF GRAZING, UNITED STATES DEPARTMENT OF THE INTERIOR
1938

State	District	Cattle	Horses	Sheep	Goats	Licenses	Livestock
Arizona	1	14,735	620	104,062	3,035	203	122,452
	2	8,413	442	5,626	3,676	90	18,157
	3	4,144	201			44	4,345
	4	12,861	625	154	9,121	214	22,761
	Total	40,153	1,888	109,842	15,832	551	167,715
California	1	23,491	498	195,326	834	208	220,149
	2	52,175	2,521	112,002	150	441	166,848
	Total	75,666	3,019	307,328	984	649	386,997
Colorado	1	37,163	2,002	161,454	29	407	200,643
	2	26,801	550	50,622		167	77,973
	3	75,456	2,310	201,872	12	751	279,650
	4	17,188	518	169,506	265	350	187,477
	6	4,613	494	95,761		150	100,868
	Total	161,221	5,874	679,215	306	1,825	846,616
Idaho	1	72,674	5,438	640,959	40	818	719,111
	2	72,008	7,436	632,647	27	1,677	712,118
	3	24,511	3,165	437,154		746	464,830
	4	31,345	3,210	119,376		410	153,931
	Total	200,538	19,249	1,830,136	67	3,651	2,049,990
Montana	1	18,448	3,077	128,896		19*	150,421
	2	20,564	7,337	185,526		349	213,427
	3	25,443	3,863	158,887		429	188,193
	4	3,559	509	38,510		95	42,578
	5	26,320	1,792	129,554		256	157,666
	Total	94,334	16,578	641,373		1,148	752,285
Nevada	1	154,066	6,610	398,748	4	435	559,428
	2	67,880	4,615	217,559		481	290,054
	3	15,106	639	230,704	1,194	312	247,643
	4	17,437	998	248,410	318	381	267,163
	5	3,834	541	8,900		79	13,275
	Total	258,323	13,403	1,104,321	1,516	1,688	1,377,563
New Mexico	2	39,094	2,097	148,814	2,346	680	192,351
	3	80,808	2,915	8,108	23,113	469	114,944
	4	36,920	1,876	48,840	18,917	256	106,553
	5	13,689	1,085	18,877	5,968	56	39,619
	6	103,394	5,393	283,813	11,957	521	404,557
	Total	273,905	13,366	508,452	62,301	1,982	858,024
Oregon	1	5,347	60	7,359		37	12,766
	2	57,150	3,464	190,604		359	251,218
	3	37,712	3,224	148,645		352	189,581
	4	22,189	2,011	64,170		132	88,370
	5	16,328	1,196	47,360		181	64,884
	6	22,131	947	49,535		270	72,613
	7	713	2	34,335		37	35,050
	Total	161,570	10,904	542,008		1,368	714,482
Utah	1	25,967	2,509	186,105		588	214,581
	2	17,878	629	468,186		637	486,693
	3	30,726	667	509,331	1,097	1,340	541,821
	4	19,299	539	212,152	12,178	712	244,168
	5	19,911	1,602	110,019		600	131,532
	6	29,068	1,560	187,515		277	218,143
	7	28,717	2,040	175,878	1,920	584	208,555
	8	16,012	994	204,995		264	222,001
	Total	187,578	10,540	2,054,181	15,195	5,002	2,267,494
Wyoming	1	29,906	2,732	287,622	2	430	320,262
	2	22,220	1,865	177,838	1	194	201,924
	3	34,006	3,240	431,171	60	261	468,477
	4	29,678	3,545	473,792	191	420	507,206
	5	36,468	2,722	74,417		173	113,607
	Total	152,278	14,104	1,444,840	254	1,478	1,611,476
GRAND TOTAL	50	1,605,566	108,925	9,221,696	96,455	19,342	11,032,642

*Montana Grazing District No. 1 is covered by cooperative grazing associations.

SUMMARY OF GRAZING LICENSES ISSUED BY THE DIVISION OF GRAZING

UNITED STATES DEPARTMENT OF THE INTERIOR, FOR THE YEAR 1938.

STATE	NUMBER OF DISTRICTS	NUMBER OF LICENSES	CATTLE	HORSES	SHEEP	GOATS	LIVESTOCK
Arizona	4	551	40,153	1,888	109,842	15,832	167,715
California	2	649	75,666	3,019	307,328	984	386,997
Colorado	5	1,825	161,221	5,874	679,215	306	846,616
Idaho	4	3,651	200,538	19,249	1,830,136	67	2,049,990
Montana	5	1,148	94,334	16,578	641,373	—	752,285
Nevada	5	1,688	258,323	13,403	1,104,321	1,516	1,377,563
New Mexico	5	1,982	273,905	13,366	508,452	62,301	858,024
Oregon	7	1,368	161,570	10,904	542,008	—	714,482
Utah	8	5,002	187,578	10,540	2,054,181	15,195	2,267,494
Wyoming	5	1,478	152,278	14,104	1,444,840	254	1,611,476
TOTAL	50	19,342	1,605,566	108,925	9,221,696	96,455	11,032,642

COMPARATIVE SUMMARY FOR YEARS 1935, 1936, 1937, and 1938

YEAR	NUMBER OF DISTRICTS	LICENSES	CATTLE	HORSES	SHEEP	GOATS	TOTAL
1935	34	15,081	1,550,776	141,553	6,739,080	172,481	8,603,890
1936	37	15,067	1,333,985	100,780	5,840,704	158,947	7,434,416
1937	49	18,752	1,612,070	115,090	9,041,771	132,633	10,910,564
1938	50	19,342	1,605,566	108,925	9,221,696	96,455	11,032,642

! HIGH LIGHTS !

Departmental Order No. 1312 which became effective on October 22 placed the Division of Grazing under the supervision of Under Secretary of the Interior Harry Slattery.

* * * * *

The Cabeza Prieta Game Range and the Kofa Game Range, Arizona, were established by Executive Orders Nos. 8038 and 8039 signed by the President on January 25. These ranges are under the joint jurisdiction of the Secretaries of the Interior and Agriculture who are vested with the power jointly to make such rules and regulations for their protection, administration, regulation, and improvement, and for the removal and disposition of surplus game animals as they may deem necessary to accomplish their purposes and not inconsistent with State law.

* * * * *

Utah Grazing District No. 8, with headquarters at Vernal, Uintah County, is serving as a testing ground for range-improvement operations which, while providing better facilities for handling the 7,000 cattle and 200,000 sheep inhabiting the area, may serve as a standard practice in bringing about an increased crop of vegetation throughout the grazing territory. First of the 50 grazing districts to undertake the comprehensive cooperative program, the Vernal plan involves a 3-year experiment in which county officials, livestock raisers, and Government experts work together for the improvement of the range. In the meantime, enrollees from Camp DG-31 are carrying forward the work of providing additional watering places, corrals, and trails for handling the livestock. Several "cutting pens" have been constructed so that when the large bands of sheep move down from the summer range in the mountains to the winter feeding areas in the valleys, each herder will be able more easily to segregate his own animals which strayed away into another band.

One of the features of the program which might be adaptable to some although not all of the grazing districts, contemplates the increased use of surrounding farm land or ranches for the production of corn for stock feeding, with the twofold result of providing a market for the corn and fatter stock for sale in the area. Reseeding of range land badly depleted through years of hard usage forms another item in the cooperative conservation plan. Under the program, at least one ton of sweet clover seed will be planted on selected spots in the district to bring back vegetation to the range. In addition, plots have been set aside to ascertain the

effect of controlled management on the forage crop. The plan had its impetus through the efforts of Grazier Earl E. House, who was assigned to this district in 1937.

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On December 20, Under Secretary Slattery approved a cooperative agreement between the Department and the Southern Pacific Land Company relating to water wells and appurtenances which had been inadvertently placed on lands belonging to the Company in California Grazing District No. 1 and Utah Grazing District No. 1 and were subsequently turned over to the Division. The Division will maintain and operate the wells for a period of 5 years. The agreement provides for its termination under certain conditions, provided that upon termination the United States may remove all surface structures and improvements and that the wells and casing will become the property of the Land Company. The lessees of the tracts have consented to the agreement.

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Appointment of 55 field agents of the Division of Grazing as deputy fire wardens and deputy fish and game wardens in ten States of the West and Southwest has resulted in the establishment of a greatly augmented force for the prevention and suppression of forest and grass fires and the advancement of the national program for conservation of wildlife and other natural resources. This new arrangement in effect makes each of the 50 Federal grazing districts a separate fire-control area in which the man power and equipment of the Department of the Interior will be used in cooperation with other Federal and State fire-fighting and conservation activities.

Groundwork for the comprehensive protection program was laid by Secretary Ickes early in the summer, when detailed instructions were issued for participation of the Division of Grazing forces in cooperative fire-fighting activities. The regulations were accompanied by an Executive order from President Roosevelt authorizing the agents to accept appointment as deputy wardens, without pay, from the States.

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Circular W-164 providing for the appointment of one district advisor to represent wildlife and recreational resources in each grazing district, with the exception of New Mexico which is covered by Circular No. 3 and Arizona Grazing District No. 3 where such

representation is already in effect was approved by the Secretary on January 6. The district advisor is to be a resident of the State in which he is to serve and is to be nominated by the State Fish and Game Commission, or corresponding State authority for the State in which the district is situated.

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A preliminary estimate of the wildlife using Federal range lands at some time during the year in Idaho has been made from material furnished by 62 advisory board members representing the four grazing districts in Idaho. The survey does not constitute an actual range count, but it supplies reliable information of a practical nature by users of the areas involved. The report indicates the following number and species of wildlife in the four grazing Districts:

Dis- trict	Sage Hens	Grouse	Deer	Elk	Antelope
1	4,675	3,952	4,671	110	656
2	6,300	1,700	2,019	515	
3	2,900	1,800	1,850	200	4,300
4	2,000	700	2,400	30	2,000
	15,875	8,152	10,940	855	6,956

* * * * *

Plans are being formulated for utilization of Division of Grazing CCC forces and equipment in an effort to rid the range of the hordes of Mormon crickets infesting certain grazing districts.

About 65 types of predators ranging from bugs that feed on the cricket eggs to rodents and birds that consume the insects are attracted to areas infested by crickets. The plan of eradication, then, must include safeguards against destruction of desirable species, such as birds, as well as methods of exterminating the obnoxious insects.

Utilizing the Division of Grazing CCC forces, additional facilities will be afforded to carry out the two major methods for extermination under a proposed Government-State program. One of these methods is the erection of metal barriers, some of them more than 50 miles in length, beyond which the crickets are unable to pass and hence drop into pen traps for self-destruction through suffocation by mere weight of numbers. Another method of extermination involves the dusting of infested areas with poisonous mixtures, which, while unharmed to grazing livestock, results in the destruction of both crickets and their eggs.

With Government scientists estimating that at least 18 million acres of land in 10 western States already have become infested with the plague of crickets, efforts will be centered around their eradication from strategic areas. Official reports furnish interesting insight into the extent of the cricket menace and the methods used for their destruction. Careful surveys have determined that in some areas, the crickets have completely destroyed vegetation necessary for the feeding of livestock, and in one project under previous extermination efforts, 450,000 bushels of the insects were removed from a 250-acre tract.

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Mr. Marvin Klemme, regional grazer for Oregon, has been granted leave of absence by the Department for ten months. He plans to visit the following-named countries for the purpose of studying grazing and other conservation activities as practiced in those countries: Hawaiian Islands, New Zealand, Australia, Philippine Islands, Manchukuo, Transcaucasia, Persia, Turkey, Bulgaria, Yugoslavia, Hungary, Czechoslovakia, Poland, Germany, Italy, France, England, and Scotland. Mr. Klemme sailed from San Francisco on December 16 and plans to arrive in New York City about October 1, 1939.

The following items are excerpts from a letter received from Mr. Klemme while he was in Honolulu:

"A representative from the National Park Service met me at the hangar and after showing me around the Hawaii National Park and vicinity for a couple days, they turned me over to one of the Territorial foresters who made arrangements for me to visit some of the ranches. I spent Christmas and yesterday on the Parker Ranch. This outfit runs about 35,000 head of cattle, 12,000 sheep, and 2,500 horses. These livestock are run on lands which they own or control, comprising about a half million acres. Since quite a lot of this is waste land the carrying capacity of the land probably runs from around 8 to 10 acres per cow for the 12-month season."

"The rainfall on this Island ranges from over 500 inches (the wettest in the world) to almost zero. The wet side of the Island is mostly growing sugar cane or is in timber, while most of the drier side of the Islands is devoted to ranching. The Parker Ranch has all its ranch fenced and cross-fenced into pastures probably averaging two sections. These sections are rotated. Due to a shortage of water, it has been piped to troughs, well

scattered, all over the range. Some of the drier range supports a heavy growth of cactus, reminding me of parts of some of our Western States."

"Originally the Islands supported very little grass so a great variety has been imported, some of which has turned out to be a nuisance. This ranch is carrying on a lot of experimental work to determine which are the better grasses. This ranch had been overgrazed in the past and considerable erosion had started. Most of this has now been eliminated. Most of the livestock run are purebreds and they keep only the best bulls and stallions. The beef is shipped by boat and killed and sold right here in Honolulu so that the producer gets a bigger price on hoof than do the ranchers in the States. They have a strong cooperative association here and the stockmen own the packing plant."

"Probably the biggest problem they have to contend with here is the large number of wild domestic animals. In spite of the fact that they have held many roundups and killed thousands of these animals, it is estimated that there are still around 40,000 wild sheep and goats running loose. The Park Service alone killed over 5,000 wild goats on their comparatively small area this spring. There are also many wild pigs and a few wild cattle. The pigs and goats get back in the lava caves and are hard to get."

The following items are excerpts from a letter received from Mr. Klemme from New Zealand:

"New Zealand has one of the most favorable climates on earth. Grass grows the year round as the temperature very seldom gets down to freezing on the North Island. It gets a little colder on the South Island especially in the higher country. There are about 60 inches of rainfall which is quite evenly distributed throughout the year. The result of all this is a high carrying capacity of the range. One ranch that I visited ran six sheep per acre for the full 12-month season and in addition ran a considerable number of dairy cows. They have their land all fenced and cross-fenced into comparatively small paddocks (pastures). They try to have at least twelve of these so that they can change pastures, or rotate, every month. Some of the dairymen go so far as to put their dairy herd in a different pasture every morning. Practically every sheepman has some dairy cows and most of the dairymen have some sheep. There are comparatively few beef cattle on the Islands and these are mostly Angus. Most of the dairy stock is Jersey with some Holsteins. The sheep are generally

Romney ewes crossed with Southdown Rams. They stand the damp weather well and aren't bothered with foot rot."

"Although New Zealand is not so large as some of our States it is reported to have a greater sheep population than the whole U. S. A."

"New Zealand is what might be called a 'small man's' country. There are no real large ranches here and very little poverty. Most of the farms are combination farm-ranches and probably average less than 200 acres, with many around 60 acres."

"Most of this country was originally forest or 'brush.' I saw today how most of it was cleared. The underbrush is cut down and when it gets dry a match is applied to it and the area is burned over. In the ashes grass is planted and right after that sheep are placed on the area to keep down the weeds until the grass gets control. Strips of grass a mile wide are the best firebreak that you can get."

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The Interdepartmental Rio Grande Board met in Washington during January and February and at that time the final details for a permanent organization were worked out. The permanent organization of the Board consists of an executive officer, assistant executive officer, a statistician, and a secretary. Permanent offices have been established in Albuquerque and the executive and assistant executive officers are located there.

A memorandum of understanding between the Secretary of the Interior and the Secretary of Agriculture looking to the establishment and administration of the Cuba-Rio Puerco Land-Use Adjustment Project, in the State of New Mexico, has been approved. This memorandum sets up joint land-use administration of one of the most critical areas in the entire Rio Grande watershed. To accomplish this the Board proposes a special grazing district to be administered under sections 2 and 12 of the Taylor Grazing Act with all interested land-use agencies participating in the form of an association.

The order of preference of other critical areas in the Rio Grande watershed was also determined, and the interested agencies have already started to make economic surveys and correlate all available information. A great deal of attention was also given to a general executive plan for the entire watershed.

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Pursuant to the Division's program for general range rehabilitation, a project of range revegetation in connection with the CCC camps was initiated by District Grazier Andrews in Utah Grazing District No. 6 during December 1938. The first place selected for the experiment was McCracken Mesa, located south and east of Blanding, Utah, and in the southern end of District No. 6. The Mesa is approximately 15 miles long and 10 miles wide. The sage grows more or less on the whole mesa but it predominates on the northern half, while the curly grass is located principally on the southern end with the other species scattered all over the entire area.

The altitude at the northern end is perhaps between 6,000 and 6,500 feet while at the southern end it is around 4,500 and the rainfall varies accordingly. This makes possible the testing of different plants at different altitudes.

On the northern central end of the mesa, experimental plot No. 1 was located in an almost pure stand of sage. The plot consists of one acre of ground which is fenced stock proof. The CCC enrollees treated the entire surrounding country with poison grain to rid it of rodents. The enrollees then marked off 18 small plots which were planted to crested wheat grass, slender wheat grass, Chamiza, and curly grass.

The small plots were planted with crested wheat grass in the following manner: 1 cultivated in rows, 1 cultivated broadcast, 1 cleared of vegetation and broadcasted, 1 sowed in vegetation and covered in rows, 1 sowed in vegetation broadcasted and covered, 1 sowed broadcast and left uncovered, 1 sowed with both grasses, 1 sowed with one grass and Chamiza, and 1 plot sowed to Chamiza. An exact duplicate plot and planting of the slender wheat grass was made beside each crested wheat grass plot so no plot would have better conditions than the other.

The object of the project is to determine which grass, mixture, or browse, and which planting will be the best suited for that area.

On the outside of the enclosed plot, a 1-acre unfenced plot No. 1a was established and planted exactly as the enclosed plot was planted. The object of this was to determine the effects of grazing on revegetation.

On the southern end of the McCracken Mesa, experimental plots Nos. 2 and 2a were established and everything that had been done in the northern plots was duplicated in the southern plots. The only difference is that

the northern plots are located in sage and the southern plots in curly grass. In addition to furnishing information on how the different grasses will thrive in competition with the native vegetation, the plots will serve as demonstration sites where stockmen can observe the effects of artificial revegetation under open range conditions.

* * * * *

Director Rutledge called the supervisory personnel from all Regions into a conference at Salt Lake City January 9-16. All field headquarters chiefs, regional graziers, improvement supervisors, and range examiners in charge, together with Messrs. Terrett, Peterson, and Stull of the Washington office attended. The Director adopted this means of meeting the personnel of the Division and outlining his plan of administration.

At the opening of the conference, he also assembled all the employees attached to the Salt Lake City offices and gave a very encouraging talk. He spoke very plainly on the simple fundamentals that go to make up an efficient organization and stressed the importance of teamwork and loyalty, authority and responsibility in an efficient organization.

The many angles and problems of the Division of Grazing were fully discussed by the staff and a better understanding was secured of the whole job of grazing administration and the development of plans for greater efficiency throughout the organization.

Director and Mrs. Rutledge were the guests of honor at a banquet and dance given by the field employees of the Division during the week of the conference. Many of the Director's former associates in the Forest Service attended to wish him success in his new position.

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The conservation benefits resulting from the transplanting of beaver in Idaho, Region No. 5, through cooperation with the State Fish and Game Commission and the Bureau of Biological Survey, proved very successful during 1938. Following the methods used in Idaho, an arrangement has been made between the Division of Grazing and the Bureau of Biological Survey to conduct similar activities in Oregon, Region No. 4.

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Colorado, Region No. 8, got off to a good start in February through the issuance of its first bulletin known as the Colorado DG News. This publication was gratefully received and read with interest in Washington. It is hoped that all field personnel received a copy and that other Regions will follow suit.

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The proposal to the advisory boards that moneys returned to the States from grazing district receipts, where set aside by State law, for range improvements, be contributed to the Department and expended in a manner similar to other funds being used for range improvements has been favorably received. The Advisory Board of Wyoming No. 4 tendered \$13,122.99 to the Secretary as a contribution under section 9 of the Taylor Grazing Act in accordance with the procedure outlined in Circular W-103 approved by the Secretary on November 2, 1937. All five Montana grazing districts have submitted warrants drawn on the various county treasurers in certain specified amounts, to be expended in accordance with the accompanying board resolutions for par-

ticular projects. The four Idaho grazing districts, Colorado Grazing Districts Nos. 1, 3, and 4, and Arizona Grazing District No. 3 have passed resolutions to contribute the 50 per cent fund to the Secretary. The Wyoming and Montana contributions were accepted by the Secretary.

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Sixty-five thousand acres of Federal range, situated 20 miles north of the town of Rock Springs, Wyoming, near the edge of the Red Desert, have been selected by the Wyoming Region of the Division of Grazing for an immediate demonstration soil erosion and re-seeding project with the cooperation of the Soil Conservation Service. Conservation of the resources, flood prevention, and a demonstration to show advisability of further development in the general area is sought. Erosion control dams with proper water spreading devices are to be constructed on all drainages, active sand dunes are to be curbed by reseeded, and the vegetative productivity is expected to increase through improved range management and reseeded.

SQUAW BUTTE RANGE LIVESTOCK EXPERIMENT STATION

On October 22, 1935, a formal agreement between the Secretary of the Interior and the Oregon Agricultural Experiment Station was signed setting aside approximately 16,000 acres of public domain in Oregon to be used for the primary purpose of an experimental range area to secure quantitative and qualitative information concerning the natural vegetative growth and the effect thereon of different methods and intensities of grazing.

The Squaw Butte Experiment Station is located in southeastern Oregon, 40 miles west of Burns, 95 miles east of Bend, and 100 miles north of Lakeview. It is close to paved roads from these three directions. The Station is owned by the Department of the Interior and is operated in cooperation with the Oregon Agricultural Experiment Station. The buildings, fences, and other improvements were constructed entirely through CCC facilities under the supervision of the Division of Grazing.

The idea of establishing such a station was originally conceived in the fall of 1934, after the passage of the Taylor Grazing Act, by officials of the Department of the In-

terior, the Oregon Agricultural Experiment Station, and local stockmen. It is located on public land typical of approximately 30 million acres lying in Idaho, Nevada, Utah, California, and Oregon. As no natural water was available on the tract, a block of 16,000 acres was obtainable without need for purchasing privately owned land.

Ample water is now provided through the use of a deep well situated in the center of the 5-mile square area. The seven 2100-acre ranges center to it. Six additional 160-acre ranges have water piped to them. Additional water has been provided where possible through construction of several types of reservoirs, some being entirely new types from those used heretofore for stock purposes.

The carrying capacity, as figured from a range survey made in 1936, is an average of 10 acres per animal month. Subsequent usage figures in the good moisture years of 1937-38 show a carrying capacity for approximately 180 cows for a period of 6½ months.

The headquarters area consists of 240 acres, where corrals, scales, buildings, well,

and nursery plantings are located. The log corrals are built to handle several bunches of cattle at a time, as is necessary in a range laboratory. The scales are roofed and built within the corral enclosure. Buildings include a laboratory for livestock disease and nutritional studies, an office, a barracks for holding meetings and accommodating visitors, a shop-warehouse, barns, two laborers' cottages, and the superintendent's house. The well, 490 feet deep, furnishes water which is pumped into the 30,000-gallon reservoir which in turn supplies water for the entire plant.

All parts of the range are easily accessible by car during the grazing season so that visitors can see whatever they wish without too much loss of time. Thirty-six miles of roads make this possible.

Ranges one, six, and seven, lying to the north, are used in a rotated-deferred grazing study where each range is used at a different part of the grazing season each year, enabling all kinds of forage plants to mature twice in six years before being grazed.

Range two, lying to the west, is used throughout the season and is stocked at the same "acre per animal month" rate as are ranges one, six, and seven. Its original forage cover was the same as these ranges. Ten years from now, which range will carry the most cattle? Will it pay to handle grass as a crop when costs for improvements are considered?

Ranges three, four, and five are being used for studies of carrying capacity and methods of management. These ranges differ from the north ranges since this area is flat, more sandy, nearly denuded of palatable grasses, and heavily infested with larkspur. The 160-acre ranges are used as holding lots and intensive grazing studies which are impossible in large areas.

Additional grazing studies include palatability work, effect of season upon nutritive value of plants, amount of grazing different species will stand and yet produce a good crop of livestock feed, effect of sagebrush upon forages, larkspur control, and germination and viability of seeds of the native plants of the area.

Artificial range rejuvenation facilities include a large nursery where introduced grasses and plants, as well as native ones, are grown under cultivation. The more promising ones are to be seeded on the range. Studies of seeding methods and time of seeding for denuded ranges are now in progress.

Crested wheatgrass and bulbous bluegrass are used to try to find some possible means of establishing grass on ranges at a cost which will make range seeding practical--something out of the question for this area under present conditions.

Livestock owned by the Oregon State Agricultural College which are used in conducting the experiments at the Station include both grade and purebred Hereford cows. All bulls will be purebred Herefords to come from the same herd for 10 years making possible a study of the effect upon uniformity, vigor, weight, and quality. The low grade cows will be compared with purebreds when handled under exactly the same conditions. Production, vigor, cash returns, breeding efficiency, et cetera will all be watched carefully. All cows are individually weighed at the beginning of the grazing season in April, and again at the close in November. Monthly weights are kept on each bunch of cattle to determine effects of different methods of management. Calves are weighed to check each cow's worth.

Facilities are at hand to study diseases of the area, as well as possible methods of treating cattle for certain "treatable" plant poisons. Comparisons of hot iron and chemical brands are to be made.

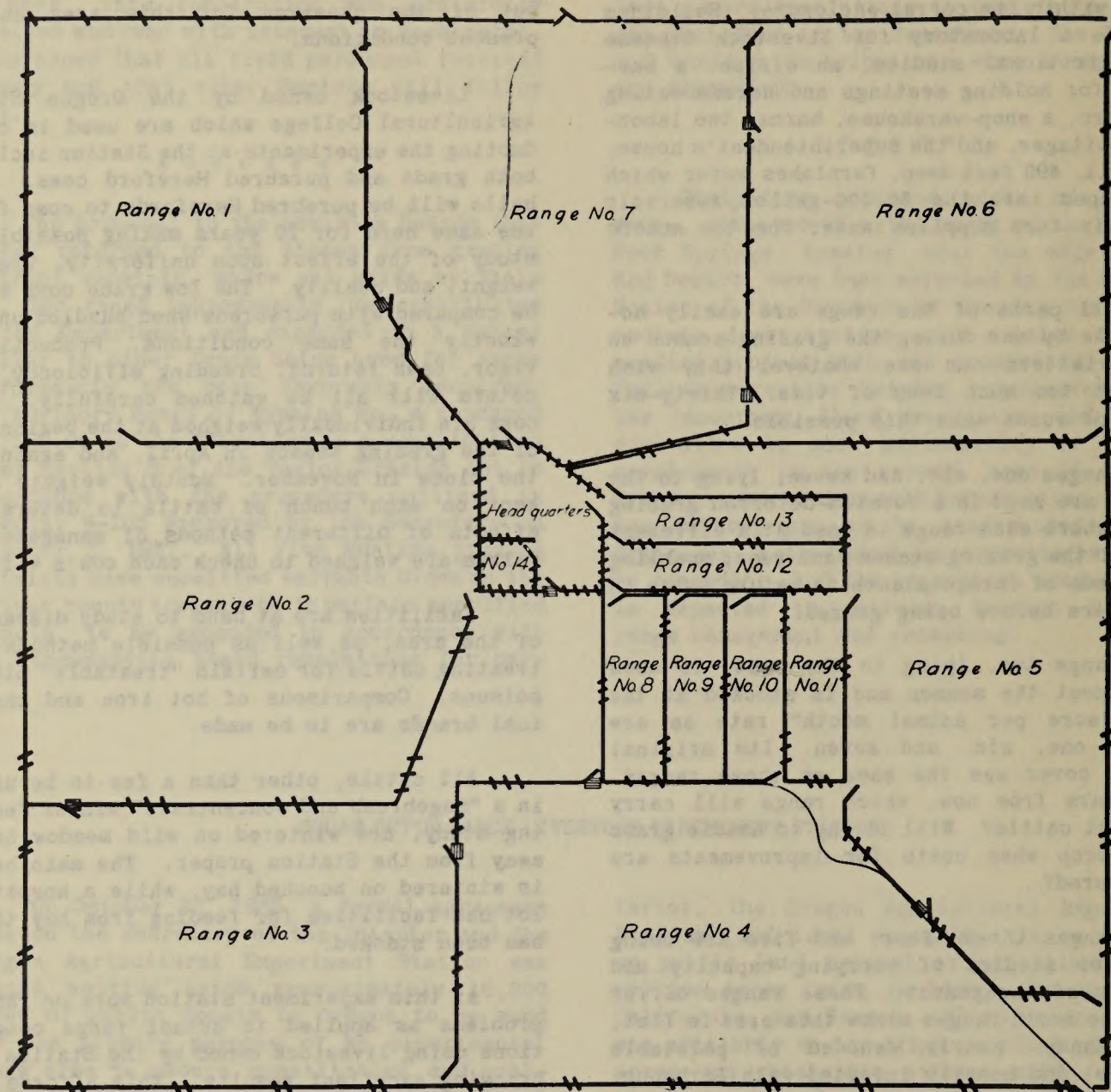
All cattle, other than a few to be used in a "sagebrush and concentrate" winter feeding study, are wintered on wild meadow hay, away from the Station proper. The main herd is wintered on bunched hay, while a hospital lot has facilities for feeding from hay that has been stacked.

At this experiment station work on range problems as applied to actual range conditions using livestock owned by the Station is bringing excellent results. This affords an opportunity to obtain information on range-management problems for typical areas of Federal range.

Annual field days are planned for late in June each year when forage conditions and project activities are at their height and livestock can be viewed on the different ranges. Visitors are always welcome.

SQUAW BUTTE RANGE LIVESTOCK EXPERIMENT STATION

U. S. DEPARTMENT OF THE INTERIOR, DIVISION OF GRAZING
AND OREGON AGRICULTURAL EXPERIMENT STATION COOPERATING



LEGEND

- +— 6 strand barbed wire fence
- ++— Wolf fence 50" woven one barbed wire top and bottom
- +++— 24" woven and three barbed wires
- ++++— 47" heavy and two barbed wires
- ▢ Cattle Guard
- Gate
- == Road

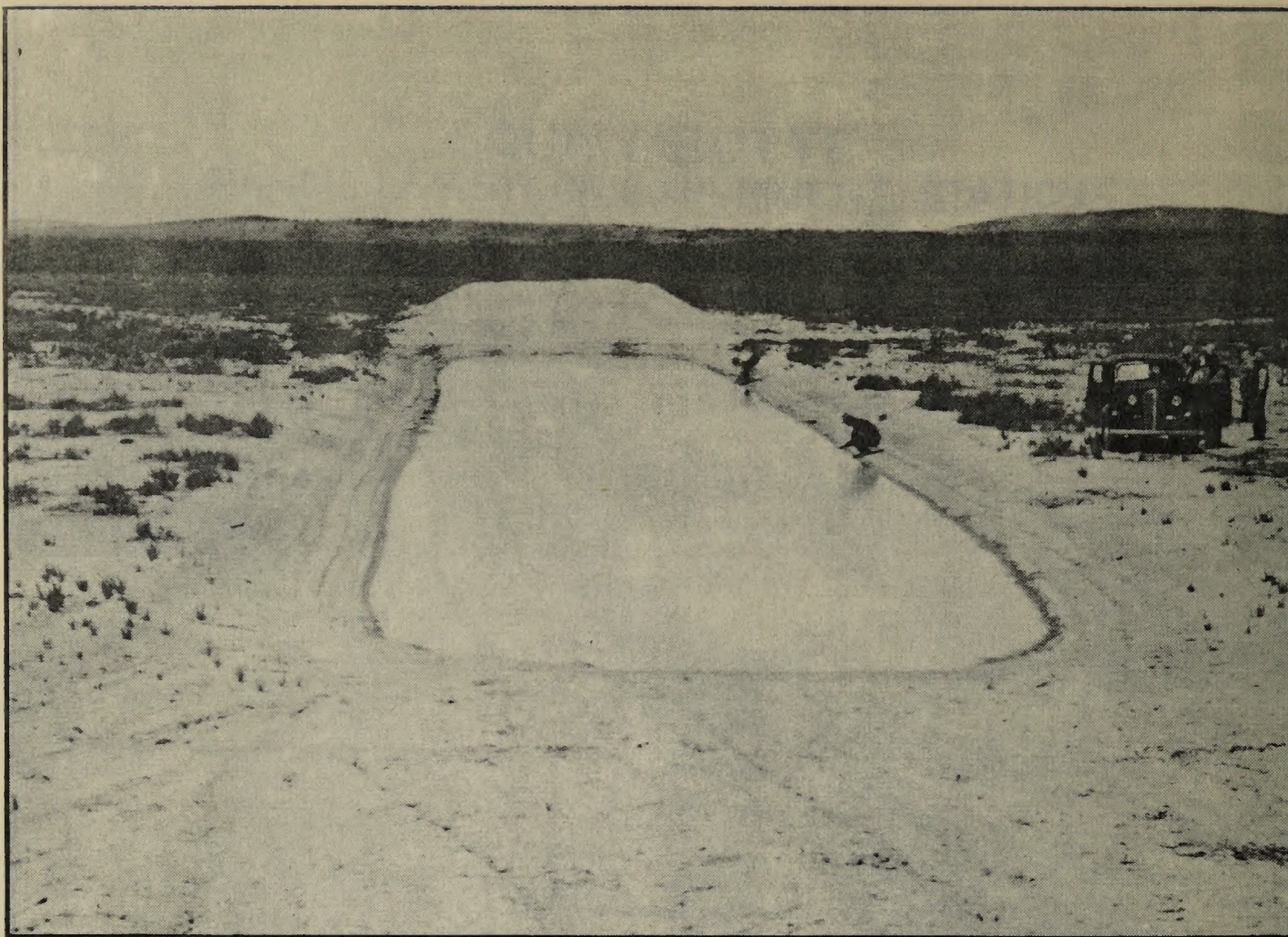
Range Management Plan	Range	Acres
Range 2-Cattle	1	2145.43
Continued use through-	2	2237.39
out entire graz. season	3	2142.34
Range 1,6,&7-Cattle	4	2137.22
Rotation deferred grazing	5	2137.24
Range 3,4,&5-Sheep	6	2100.05
Rotation deferred grazing	7	2143.86
Range 8,9,&10-Sheep	8	160.
Carrying Capacity	9	160.
Range 11,12,&13-Sheep	10	160.
Rotation deferred grazing	11	160.
Range 14	12	160.
Full grazing only	13	160.
	14	40.



Field Day at Squaw Butte in September 1937



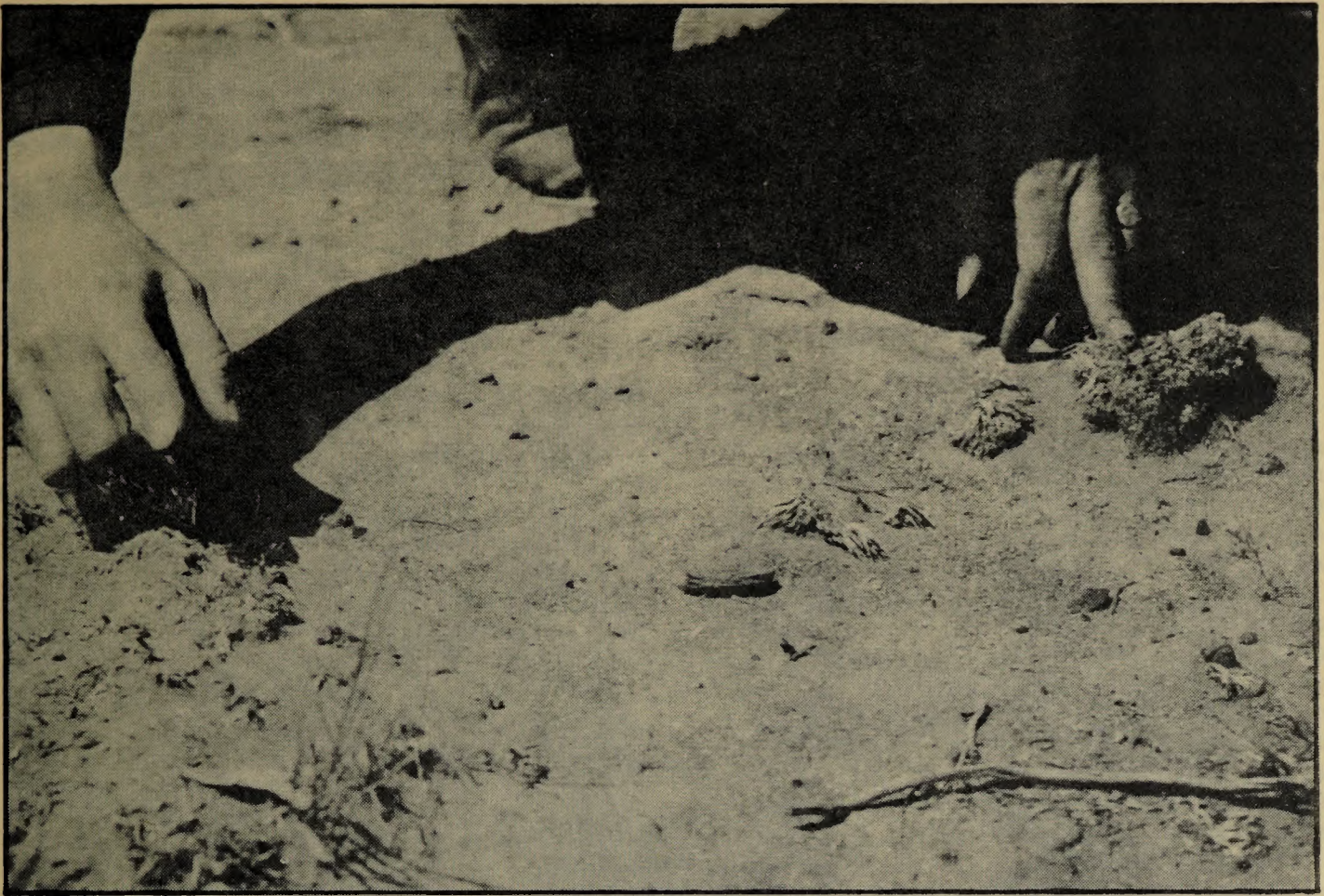
Squaw Butte Range Livestock Experiment Station headquarters and CCC camps in the summer of 1937.



Borrow pit type of reservoir. This reservoir filled the first time in the spring of 1936 and has held water continuously since that time.



Sheep watering at a reservoir constructed by CCC enrollees in range 1.



Dead clumps of grass roots typical of approximately 8,000 acres of this range at the time the experiment was started. Note the clump of grass that by chance survived after years of indiscriminate abuse of the range.



Sagebrush has been highly competitive with grass for moisture, but has also been the means of saving a few remaining grass plants which led to the rapid increase of forage as shown in the following photograph.



Close-up of natural grass production on an area artificially freed of sagebrush.



Type of native range after a few years of protection and management.

CIVILIAN CONSERVATION CORPS GLEANINGS

On April 5 the Civilian Conservation Corps completed six years of successful operation. Celebrations to which the general public was welcomed were held in the individual camps. The visitors were given an opportunity to inspect the camps and look over the work the enrollees are doing.

The Division of Grazing wishes to express its appreciation of the opportunities afforded it by the CCC in its range improvement program.

* * * C C C * * *

Camp Superintendent Opie M. Lloyd of DG-65, Massadona, Colorado, reports the completion of the Red Wash Bridge project. This bridge makes possible traffic from the main highway to the White River and gives the camp access to an area where water conservation projects can be started, besides enabling livestock to get to the grazing allotments and water. Approximately 150,000 sheep and 25,000 cattle will benefit by this construction.

* * * C C C * * *

Judge Nelson B. Higgs and County Clerk W. M. Carroll have been taking part in a safety driving promotion project at Camp DG-112, Harney County, Burns, Oregon.

On a visit to the camp recently the county officers were accompanied by Dick Kriesien, attorney, who made up the necessary preliminaries to institute a mock damage suit against an offender who is supposed to have broken traffic laws. A jury was drawn from 31 enrollees duly subpoenaed and the twelve were sworn in. Judge Higgs was the presiding judge with counsel selected for the complainant as well as the defendant. Witnesses were placed on the stand and questioned. The nature of the testimony brought out interesting questions requiring a ruling of the presiding judge, causing considerable argument.

Mr. Carroll said that in addition to some good entertainment the mock trial brought many fine points of safety driving to the attention of the enrollees and was one of the most effective lessons that could have been given the young men who assume the responsibility of driving trucks and cars in the CCC organization.

* * * C C C * * *

The enrollees of Camps DG-112 and 130, Burns, Oregon, together with enrollees from two Bureau of Biological Survey camps, gave their services in a "Smoker" in Burns for the purpose of purchasing a Pulmotor for the City of Burns.

* * * C C C * * *

Superintendent Grant Soule of Camp DG-98, Dubois, Idaho, reports that an agreement has been signed with the Intermountain Range and Experiment Station of the Forest Service for Camp DG-98 to cooperate in the experimental range and improvement program of the Bureau of Animal Industry Sheep Station.

* * * C C C * * *

The severe winter snows throughout the West have presented opportunities for rescue work by the CCC enrollees. Late in the afternoon on February 10 a call was received at our Delmue Camp DG-19, near Pioche, Nevada, for assistance. The call was made by a sheepman who stated that 5,000 head of sheep were marooned in Steptoe Valley near the Atlanta mines about 16 miles from the highway. On the morning of February 11, Superintendent Bottini, two foremen, and 50 enrollees proceeded to the Valley. The road was cleared and trucks went through loaded with 7,500 pounds of feed. The work of the CCC enrollees saved the flock from starvation.

Camp DG-65, Massadona, Colorado, was called for assistance on three occasions during February to break trails to sheep stranded because of heavy snows, so that stockmen could get feed to their flocks. On February 13 a crew of 52 enrollees, under two foremen, shoveled snow by hand for one mile to reach 6,000 sheep owned by the Pitchforth ranch. The next two days a $2\frac{1}{2}$ -mile snow drift was cleared and 2,000 sheep of Mrs. Marie Villard were rescued. A few days later it was necessary to utilize a tractor to clear 12 miles of snow to rush feed to 5,000 sheep of stockmen Avagares and Valenzis, and this work was interrupted by a blizzard. On February 27 work was started to clear 12 miles of snow on the Red Wash road to open the road to 5,000 sheep and a truckload of lambs.

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Warren L. Hersman, nontechnical foreman, at Camp DG-72, Bridger, Montana, has been contributing a series of excellent articles on CCC activities for publication in The Bridger Times.

* * * C C C * * *

The enrollees at Camp DG-72, Bridger, Montana, have finished a fencing project for which they are receiving congratulations from the stockmen of the area. The Moody Fence Project in the Bowler district consists of 4,000 feet of 4-wire standard fence. Seventy per cent of the holes were dug in almost solid rock. The project was finished in record time without accident. The fence has separated and benefited the cattle and sheep range, thus settling arguments concerning where the cattle and sheep should feed.

WHERE DID YOU GET THOSE LAMB CHOPS?

Of the 32,221,000 lambs produced in the United States in 1938, 15,068,000 were produced in the 10 principal public-domain States of Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, and Wyoming. According to reports this was the largest crop on record for these States. This area includes 50 Federal grazing districts, totaling 120 million acres of public-domain grazing land, administered by the Division of Grazing, Department of the Interior. The number of breeding ewes maintained in the States during the year totaled 17,685,000 head, and, on the basis of the number of lambs docked or branded, the lamb crop averaged 85 per cent.

A total of 9,221,696 head of sheep were licensed to graze on the Federal range during that year, and, assuming that 90 per cent of this 9 million odd head were breeding ewes and that the average lamb crop was the same as the State averages, the 120 million acres of Federal range contributed to the production of 7,154,600 lambs. Again assuming that each of these lambs weighed 70 pounds at market and the Federal range supplied one-third of the feed they consumed up to the age of five months, 166,974,000 pounds of lamb on the hoof were produced on these lands during 1938. Thus it is apparent that the forage resources of the Federal range play a most important role in our national economy.

Federal ranges and similar lands are the ideal breeding grounds of the range livestock business. In addition to the feed furnished sheep and lambs, it is estimated that one-third of the annual feed requirement for 1,714,491 cattle and horses and 96,455 goats was supplied from these lands during 1938.

The annual food requirement of the United States includes more than 17 billion pounds of meat of which about one billion pounds is lamb and mutton. The per capita consumption of lamb and mutton is 7 pounds annually, and, from all indications, the trend of the lamb demand is definitely upward.

The range country west of the 100th meridian produces about two-thirds of the annual lamb crop of the United States. Over this broad area of plain, valley, plateau, and mountain slope, there are ideal conditions for large-scale operations. Methods of operations, of course, vary according to conditions in the different localities and the land set-up of the individual operator, but the objective is the same in all instances; namely, to produce a choice lamb as cheaply as possible in order that it may be available to the consumer at a price he can afford to pay and yet return a profit to the grower.

The key to economic production is pasture. Give pasture an even break in weather, use it wisely, and it will continue to produce and reproduce from year to year. Nature designed the growth habits of forage plants, and the prudent stockmen have adopted methods of practice to get the most out of nature. Each spring with the new crop of grass there is born a new crop of lambs to convert the forage into human food. Preserve the soil and maintain its fertility and through the years our pasture resources will never fail us completely.

Pastures are of many types and ownerships. The 50 grazing districts, established under the Taylor Grazing Act, scattered between the Canadian and Mexican borders, consist of Federal grazing lands vital to the continuance of the livestock industry of the Nation. These areas are now teeming with life and activity attendant upon the new supply of lamb chops that is to represent the product of the forage, the capital, and the labor that are employed in the sheep-raising business. True the Federal range, now in its fifth year of grazing control under the new national range conservation policy, furnishes only a part of the year-long feed for these 9 million ewes. However, to many of the 6,000 flockmasters licensed to graze their herds thereon it is the most important part.

Let us suppose this is the middle of March. In the southern parts of California, Nevada, New Mexico, and Arizona, lambs that were born in January are devouring the green weeds, grasses, and browse characteristic of the early season's growth in these southwestern climates. In Idaho and Oregon, the "hot house" lambs, born in lamb hospitals around feed lots, are being nurtured on stored rations until they can satisfy voracious appetites on the early spring grasses that follow the melting snow on the adjacent public domain. This part of the crop thus becomes ready for market in May, June, and July. In other localities, such as northern Nevada, Utah, Colorado, Wyoming, and Montana, the lamb crop begins to come along a little later due to the weather and adopted practices, but, during the warm summer months, many of the breeding ewes that spend the winter on the public-domain winter range will be guiding their offspring to the lush growth on summer ranges at higher altitudes where the lambs unwittingly prepare themselves for the block in about four months. The public domain supplies a part of this summer grazing, although considerable summer feed is also obtained from private, State, and national forest lands. This part of the lamb crop goes to market in the fall.

Shed lambing in January and February has become a widely adopted custom in Oregon and Idaho where a supply of alfalfa hay is ample and the summer range is reasonably accessible. These "hot house" lambs are ready for the block in June and July. The breeding herd is brought to the feed lot usually about the middle of December. Lambing operations are completed in early March, and the animals are kept on feed until the early range is ready. After shearing, the ewes and lambs are taken to the summer range from which the lambs are shipped direct to market.

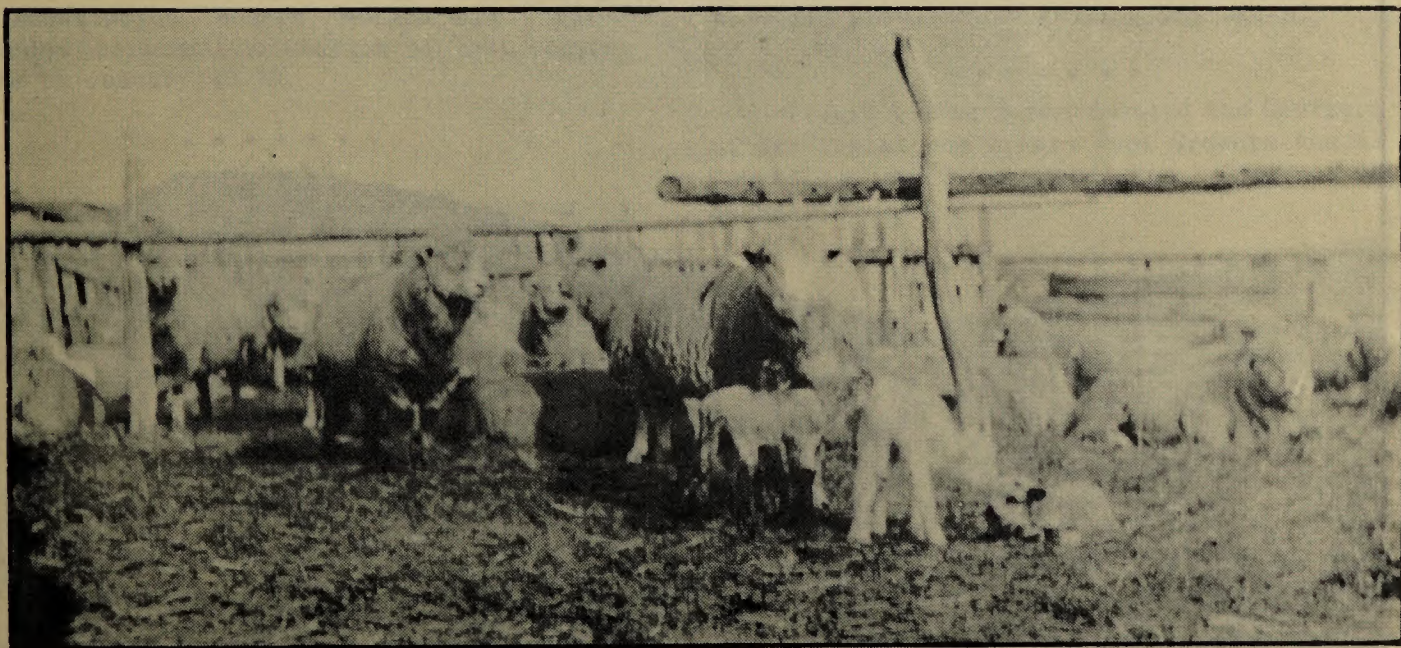
There are about 5 million acres of Federal range lying south of Snake River in Oregon Grazing District No. 4 and Idaho Grazing District No. 1. In the vicinity of these lands, many of the operators have adopted the practice of early lambing as described above. Many of them use summer ranges under licenses issued by the Division of Grazing. One grower, whose operating base is located near Snake River in Idaho, reported a 138 per cent lamb crop in 1938. He summered his herd near the Nevada State line in Malheur County, Oregon, and Owyhee County, Idaho, and shipped 4,011 lambs during June and July. Sold in four lots, they weighed in at the Ogden stockyards as follows:

Lot 1, 1206 head, average weight 104.2 lbs.,
sold June 22
Lot 2, 720 head, average weight 98.0 lbs.,
sold June 24
Lot 3, 1020 head, average weight 101.2 lbs.,
sold July 5
Lot 4, 1065 head, average weight 95.9 lbs.,
sold July 29

According to this grower, the results obtained were due largely to the protection afforded through the Taylor Grazing Act.

Grazing control on the Federal range naturally has invoked certain changes in methods of operation in many localities. The cooperation of the stockmen has been of vital importance in the conservation program. Designed "to stop injury to the public grazing lands by preventing overgrazing and soil deterioration, to provide for their orderly use, improvement, and development, to stabilize the livestock industry dependent upon the public range, and for other purposes," this act has recognized the relationship between privately owned lands and Federal range lands. This relationship is based on the principle of prudent use of ranch and range to promote stability of the livestock industry and the forage resources. Stability fosters economy, minimizes losses, stimulates confidence, and influences costs of production. Production costs influence prices and consumption.

In defining the appropriate grazing periods and the carrying capacities for the various types of Federal range, and in setting standard requirements to be met by qualified users of the range, this Federal control fosters the proper use of privately owned lands in grazing districts ultimately to result in benefits of far-reaching significance.



Ewes and lambs are held in small pens for a few days after lambs are born to cut death losses and permit lambs to find their mothers more readily.



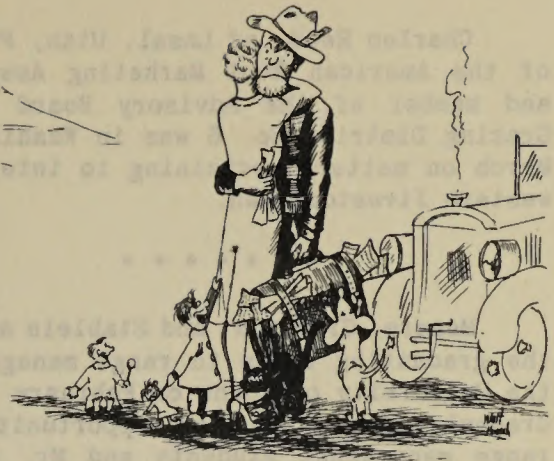
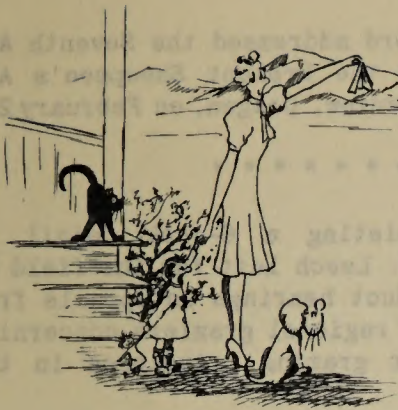
This is an example of good winter range on the public domain. The canyons and bluffs afford shelter from wind and storms while the flat which has a forage growth of shrubs principally affords most advantageous grazing in calm weather. Water holes are necessary but a moderate amount of snow over the range is a good water hole substitute. Sheep graze on this type of range usually from November 1 to April 30.



Sheep thrive on the early quick-growing "ground feed" which consists primarily of annual weeds that respond to favorable moisture conditions on shrub type ranges of the public domain.

GOINGS

COMINGS



The annual convention of the Idaho Wool Growers Association was held at Idaho Falls on January 6 and 7. Grazing problems as affected by the Taylor Grazing Act were discussed by Director Rutledge. The problem of predatory animal control on the public domain was discussed in committee meetings at which Mr. Kerr represented the Division of Grazing. Other members of the Division present included Messrs. Greenslet, Ryan, Beck, and Keith.

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The Arizona Cattle Growers Association held its annual meeting in Safford, Arizona, January 31 to February 1. Messrs. Kerr and Ussery attended the meeting as representatives of the Division of Grazing. Mr. Ussery presented a paper which outlined the activities of the Division in Arizona.

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At the invitation of the Montana Wool Growers Association, Messrs. Morgan and Crouter attended the annual convention of that body at Butte on January 16-18.

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Archie D. Ryan arrived in Washington in January to attend the meeting of the Interdepartmental Rio Grande Board and the organization conference of the Division of Grazing.

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Depue Falck appeared before the Labor Committee of the House of Representatives to be available for questioning in regard to the proposal now before the House to make the CCC a permanent organization and providing Civil Service status for all employees.

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Nic W. Monte is representing the Division of Grazing in the organization of the Harney County Wild Life Association, composed of representatives from all related Government activities, civic, and livestock organizations within Harney County, and all citizens interested in a unified wildlife program.

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A. D. Molohon will deliver a series of ten 1-hour lectures on the administration of grazing districts and range surveys under the Taylor Grazing Act at the Oregon State Agricultural College, Corvallis, Oregon, April 11-16.

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G. M. Kerr attended the meeting of the Arizona State Game and Fish Commission in Phoenix on January 16. He presented a proposed cooperative agreement with the Department of the Interior for handling game and wildlife problems in grazing districts.

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Virgil E. Starr represented the Division of Grazing at the Oregon Wool Growers Annual Convention held at Pendleton, Oregon, on January 9.

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R. E. Morgan attended the meeting of the Conservation Committee of the Montana State Legislature held at Helena on February 10.

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Messrs. Kerr, Molohon, and Greenslet arrived in Washington on March 6 to attend an organization conference called by the Director.

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Charles Redd, of Lasal, Utah, President of the American Wool Marketing Association and member of the Advisory Board of Utah Grazing District No. 6 was in Washington in March on matters pertaining to interests of western livestock men.

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Messrs. Greenslet and Stablein addressed the graduating class in range management at the University of Idaho on February 17. Mr. Greenslet spoke on the opportunities for range management students and Mr. Stablein presented the history of the Taylor Grazing Act and land policies of the Department of the Interior.

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Warren J. Gray addressed the students of Mesa College Agricultural Farm on animal husbandry and range management in January.

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Sixty members of the Colorado Advisory Boards met with Director Rutledge on February 7 at Grand Junction and discussed the 50 per cent fund, property classifications, and law enforcement.

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Paul Stafford addressed the Seventh Annual Meeting of the Fremont Sheepmen's Association at Lakeview, Oregon, on February 24.

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After completing a 6-week detail in Washington, J. H. Leech left for the field on March 10 to conduct hearings on appeals from the decisions of regional graziers concerning applications for grazing privileges in the districts.

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Paul Crouter attended a conference at Helena, Montana, on February 4 with State Fish and Game Commission, Forest Service, Biological Survey and State agency representatives to study the wildlife resources of Montana.

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